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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/526,955	03/16/2000	Meral Bradley Woodberry	SMT 391	1607
7590 06/07/2004			EXAMINER	
David C Ripma Patent Counsel Sharp Laboratories of America Inc 5750 NW Pacific Rim Boulevard Camas, WA 98607			NGUYEN, VINH P	
			ART UNIT	PAPER NUMBER
			2829	

DATE MAILED: 06/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/526,955

Applicant(s)

WOODBERRY, MERAL BRADLEY

Examiner

VINH P NGUYEN

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-17 and 19 is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 7, 18 and 20-28 is/are rejected.
- 7) ☒ Claim(s) 5 and 8-10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/22/03 has been entered.

2. Claims 23-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 23, it is unclear how the ESD is interrelated and associated with the optical region?

In claim 24, it is unclear what "an optical test interface" represents. Is it shown in any of drawings? It is unclear whether "an interface" of the first optically sensitive device is the same as the optical test interface? Furthermore, it is unclear how an optical test interface is associated and interrelated with "an interface" of the first optically sensitive device?

The dependent claims not specifically address share the same indefiniteness as they depend from rejected base claims.

3. Claims 21 and 25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with

which it is most nearly connected, to make and/or use the invention.

It appears that the original specification does not have support for the limitations of “introducing the electrical command signal to a second optical region” and “converting the electrical command signal to light” as recited in claim 21 and the limitation of “a second optically sensitive device having an input connected to the component output to accept the electrical command signal, the second optically sensitive device converting the electrical command signal to a light signal emitted at an output” as recited in claim 25.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims are 1-2,4,6-7,18,20,22,24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirt (pat # 5,448,802) in view of Makki et al (Pat # 5,216,359).

As to claims 1,7,18,20,22,24,26, Hirt discloses in figure 6 a wafer (90) with a plurality of IC dice (94) and these dice are connected to an electrical source (electrical power and ground). Hirt teaches that the dice (94) on the wafer (90) are tested simultaneously. Hirt does not disclose the details of the die in figure 6. However, Hirt also discloses a die (40) as shown in figure 2

having optically sensitive devices (20,22) electrically connected to a component (30). According to Hirt, the optical devices (20,22) are stimulated so as to allow test signal (current signal) to flow through the optical devices (22,20) to the component (30) so as to exercise the component (30). It would have been obvious for one of ordinary skill in the art to provide the die structure of figure 2 for the die structure in figure 6 so that such dice on the wafer are tested according to Hirt's technique.

As to claim 2, Hirt teaches that the electrical source is an electrical power source. Therefore, if a positive electrical signal from the power source applied to the optically sensitive devices (20,22), a positive current flow would flow to the component (30).

As to claim 4, Hirt teaches that the optically sensitive devices are diodes as shown in figure 1.

As to claim 6, Hirt does not disclose a filter mask for allowing passage of a light beam through the mask in order to stimulate the optically sensitive devices. However, Makki et al teach that it would have been well known to use a filter mask (26) for allowing passage of a light beam through the mask in order to stimulate the optical path. It would have been obvious for one of ordinary skill in the art to provide the filter mask of Makki et al to the device of Hirt et al so that the light beam would focus to radiate to the optical sensitive devices.

Art Unit: 2829

6. Claims 5 and 8-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art does not disclose specific step of optically stimulating the optically sensitive devices, step of connecting the integrated circuits to an electrical source and the specific probe card structure as recited in the instant claims 8-10.

Claimd 11-17 and 19 are allowable since the prior art does not disclose a specific device for excersing components on a plurality of integrated circuits as recited in the instant claims 11-17 and 19.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

VN ~~Malmberg et al (Pat # 4,053,833) disclose contactless test method for integrated circuit.~~


Makki et al (pat # 5,216,359) disclose electro optical method and apparatus for testing integrated circuits.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VINH P NGUYEN whose telephone number is (571)-272-1964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

Art Unit: 2829

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


VINH P. NGUYEN
PRIMARY EXAMINER
ART UNIT 2829
05/28/04